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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,018	03/15/2004	Joe Lee	12475/3	1605

7590 10/27/2006

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EXAMINER	
LAZORCIK, JASON L	
ART UNIT	**PAPER NUMBER**
1731	

DATE MAILED: 10/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

C

Office Action Summary	Application No.	Applicant(s)	
	10/801,018	LEE, JOE	
	Examiner	Art Unit	
	Jason L. Lazorcik	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Taylor (US 2,461,011).

Regarding claims 1 and 5, Taylor teaches a method exemplified by the steps of "coating class cullet particles with ash-free carbon in a finely divided state...to provide an adherent carbon protective film on each glass particle". The reference further discloses that the mixture of carbon coated particles or shards is heated to fuse the particles into non-adhering spheres formed by surface tension but insufficient to burn off the carbon protective coating. The spheres are cooled and the carbon powder coating cleaned from the rounded glass particles.

With respect to Claim 4, Taylor teaches that the agitation procedure can be employed using "a rotary kiln...of the continuous through-put type, in which heating of the mixture is conducted, so as to cause rolling of the spheres as they are formed" (Column 2, Lines 5-10). The limitations set forth in the immediate claim are anticipated by the present disclosure wherein the stated rotary kiln is held functionally equivalent to the claimed heating furnace using a conveying drum.

Regarding claim 5, the immediate reference teaches (example 1) heating of the particles between 912°C to 954°C, cooling the beads and rinsing in liquid water. The disclosed procedure reads directly on the immediate claim wherein the beads are heated from room temperature to 500 to 1000°C and cooled to room temperature. It is

further noted that the reference teaches that "the temperature to be used will depend on the particular glass, and for ordinary scrap glass of the soda-lime silica type will be in the range of about 850-950°C" (Column 6, Lines 65-68).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor as applied under 35 USC 102(b) above to Claim 1.

Taylor (Example 1) teaches the use of glass to carbon black powder weight ratios ranging from 200:1 to 133.3:1. Further, it is clear from the disclosure in Example 1 (Column 3, Lines 38-55) that the weight fraction of the smallest particles increases from sample B which has no particles smaller than 40 grit to Sample A with <10% of particles in the 50 and 60 grit ranges to Sample C which presents over 70 percent of the

particles in the 9 to 26 mil range or between 40 and 60 grit. This trend coincides with an increase in the weight ratio of glass to carbon black in the sample from 1000:5 in B to 1000:6.5 in A and to 1000:7.5 in sample C. Since smaller particles have a larger surface area to volume ratio (e.g. larger surface area for equal mass of material) the trends clearly suggest that the smaller particle sizes require a larger amount of graphite in order to achieve an adequate coating. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to experimentally optimize the glass shard to carbon powder ratio from between 110:1 to 90:1 as set forth in Claim 2 or to 100:1 as set forth in Claim 3 dependent upon the specific surface area of the glass shards.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. United States patents 4,749,398, 4,643,753, and 4,201,560 delineate the state of the art in thermally processing glass particles with anti-adhesion carbon coatings.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Lazorcik whose telephone number is (571) 272-2217. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLL

ERIC HUG
PRIMARY EXAMINER